Service Manual

DT-120

FM STEREO/AM/TV RADIO

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SPECIFICTION.

FM ELECTRICAL PERFORMANCE

Model : DT-120 (EUR)	Brand:	Temp: °C	R.H.: %	Date : 2006/04/27				
Test Item	Condition			Value		Test No.		Unit
	Input	Output	Freq.	Nom.	Lim.	1.	2.	
Tuning Range		S/N=6dB	Min.	87.5				MHz
			Max.	108.0				
Intermediate Freq.		S/N=6dB		10.7	±0.05			MHz
Max. Sensitivity		S/N=6dB	90 MHz	12	18			dBu
			98 MHz	12	18			
			106 MHz	12	18			
Usable Sensitivity		S/N=30dB	90 MHz	18	24			dBu
			98 MHz	18	24			
			106 MHz	18	24			
Image Rejection		S/N=6dB	106 MHz		14			dB
I.F. Rejection		S/N=6dB	90 MHz		50			dB
3 db Limiting	60 dBu			18	24			dBu
Min. Output	60 dBu	Vol=min		0.2	0.4			mV
Auto.Scan.Stop.Sens.				18	24			dBu
Stereo Separation (1kHz)				24	18			dB
S/N Ratio(22.5kHz)				45	36			dB
Current Consumption (22.5HzDev.Modulation 400Hz/DBB)		R.O.		35	45			mA
Am. Suppression				32	26			dB
Audio fidelity 75KHz dev. (-3dB W/ 50us Pre Emphasis)	60 dBu			100	200			Hz
				10K	8K			Hz
Output Power (45HzDev.Modulation 400Hz/DBB)		VRmax		1	0.5			mW
DBB Action ON / OFF(100Hz)		R.O.		9	6			dB
T.H.D.(45kHz dev.)				1.5	3			%
Over Load Capacity		10%T.H.D			110			dBu
Lowest Batt. Volt.	60 dBu		98MHz	1.05	1.10			V
Supply Voltage：DC 1.5 V	R.O.： 0.05 mW		Load： 16 Ω	Modulation：1kHz/22.5kHz Dev.				
Remark： ( )首件產品 ( )客戶抽測： ( )成品 ( )例行抽測 ( )業務樣品： ( )半成品 ( )新機種 ( )工程變更：				Approved By		Released/Tested By		

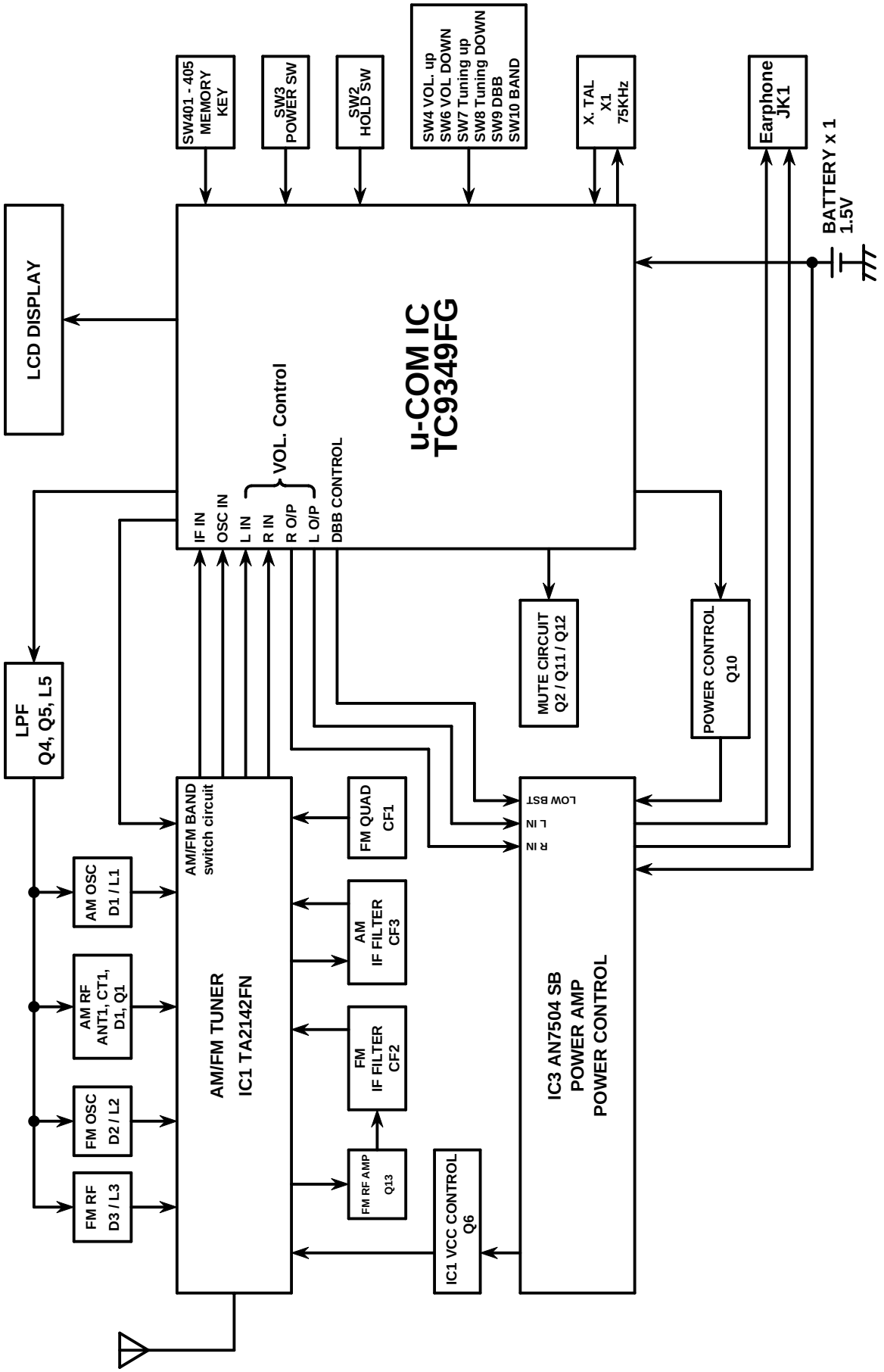
SPECIFICTION.

AM ELECTRICAL PERFORMANCE

Model : DT-120 (EUR)	Brand:	Temp: °C	R.H.: %	Date : 2006/04/27				
Test Item	Condition			Value		Test No.		Unit
	Input	Output	Freq.	Nom.	Lim.	1.	2.	
Tuning Range		S/N=6dB	Min.	522				KHz
			Max.	1629				
Intermediate Freq.		S/N=6dB		450	±2			KHz
Max. Sensitivity		S/N=6dB	603 KHz	54	58			dBu
			999 KHz	52	56			
			1404 KHz	52	56			
Usable Sensitivity		S/N=20dB	603 KHz	60	64			dBu
			999 KHz	58	64			
			1404 KHz	56	62			
Image Rejection		S/N=6dB	1404 KHz	36	30			dB
I.F. Rejection		S/N=6dB	603 KHz	40	34			dB
Selectivity(±9KHz)		S/N=6dB		26	18			dBu
Bandwidth (-6 dB)		S/N=6dB			4-12			KHZ
Auto.Scan.Stop.Sens.				63	70			dBu
S/N Ratio				36	28			dB
Current Consumption		R.O.		35	45			mA
Freq. Response (-6dB)	74 dBu		999 KHz	50	100			Hz
				2300	2000			Hz
Output Power .(MOD60%)		VRmax		1	0.5			mW
Lowest Batt. Volt.		.		1.05	1.10			V
T.H.D.(MOD60%)				3	5			%
Over Load Capacity		10%T.H.D		100	90			dBu
A. G. C. F. O. M.	100dBu			46	40			dB
Whistle Modulation	**74 dB μ /m**	**2IF/3IF**			**15**			%
Supply Voltage：DC 1.5 V		R.O.： 0.05 mW		Load： 16 Ω		Modulation：400Hz/30%Mod.		

Remark： ( )首件產品 ( )客戶抽測： ( )成品 ( )例行抽測 ( )業務樣品： ( )半成品 ( )新機種 ( )工程變更：	Approved By	Released/Tested By

BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

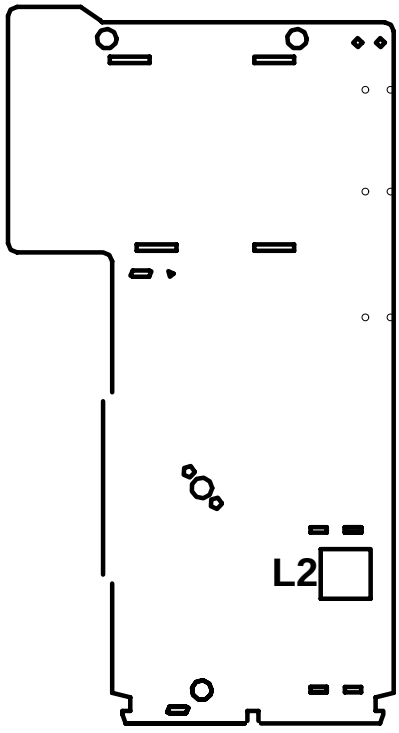
1. ALIGNMENT FOR TUNING CAPACITOR VOLTAGE RANGE

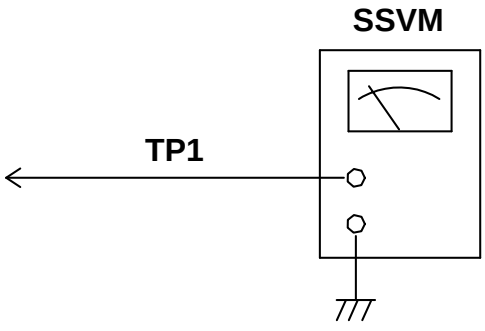
a. Required Instruments：
Signal Generator
SSVM

b. Alignment Procedure

Mode	Adjustment	Procedure
		(1) Set the power switch to ON. (2) Connect a SSVM to TP1.
FM	L2	(1) Tune FM to 108 MHz. (2) Adjust L2 to have a reading of 7.8V on the SSVM.

c. Instrument Connection





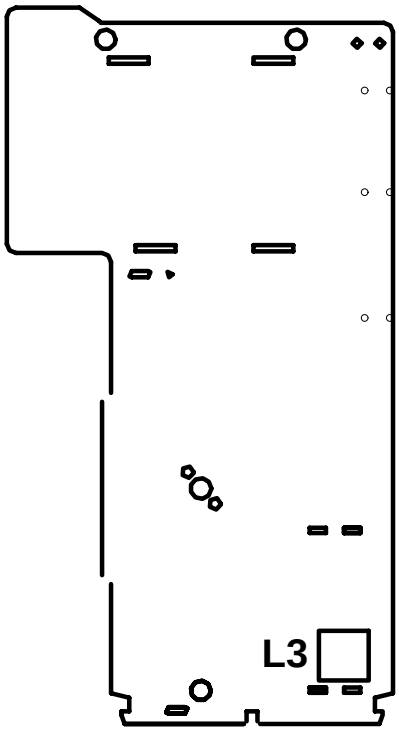
2. ALIGNMENT FOR FM SENSITIVITY

a. Required Instruments：
Signal Generator
SSVM

b. Alignment Procedure

Mode	Adjustment	Procedure
FM	L3	(1) Set the power switch to ON. (2) Connect a SSVM to the HEAD PHONE JACK O/P. (3) Connect the output of the FM signal generator to the test point (TP5). (4) Set FM to 106MHz. (5) Adjust L3 for maximum audio output.

c. Instrument Connection



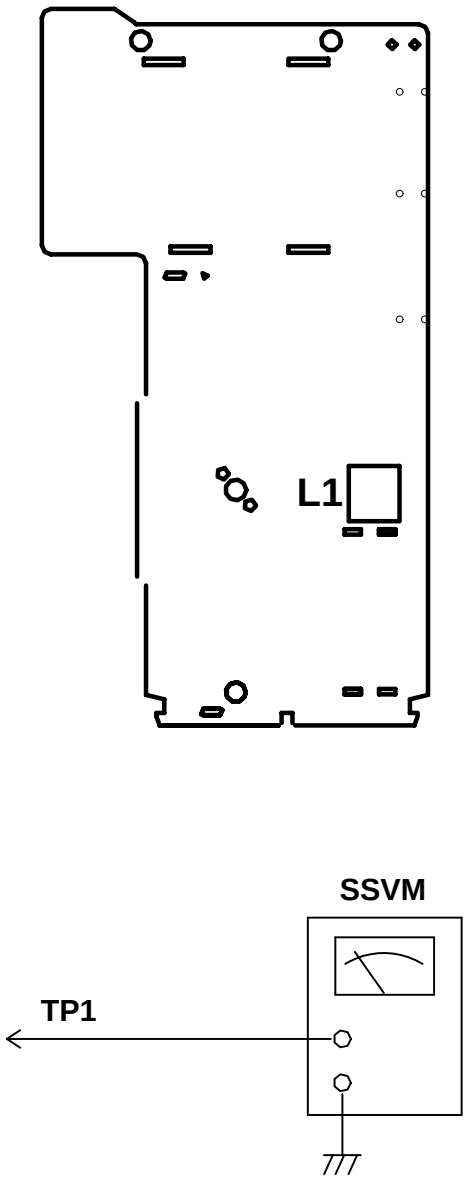
3. ALIGNMENT FOR TUNING CAPACITOR VOLTAGE RANGE

a. Required Instruments：
Signal Generator
SSVM

b. Alignment Procedure

Mode	Adjustment	Procedure
		(1) Set the power switch to ON. (2) Connect a SSVM to TP1.
AM	L1	(1) Tune AM to 1629 KHz. (2) Adjust L1 to have a reading of 6.1V on the SSVM.

c. Instrument Connection



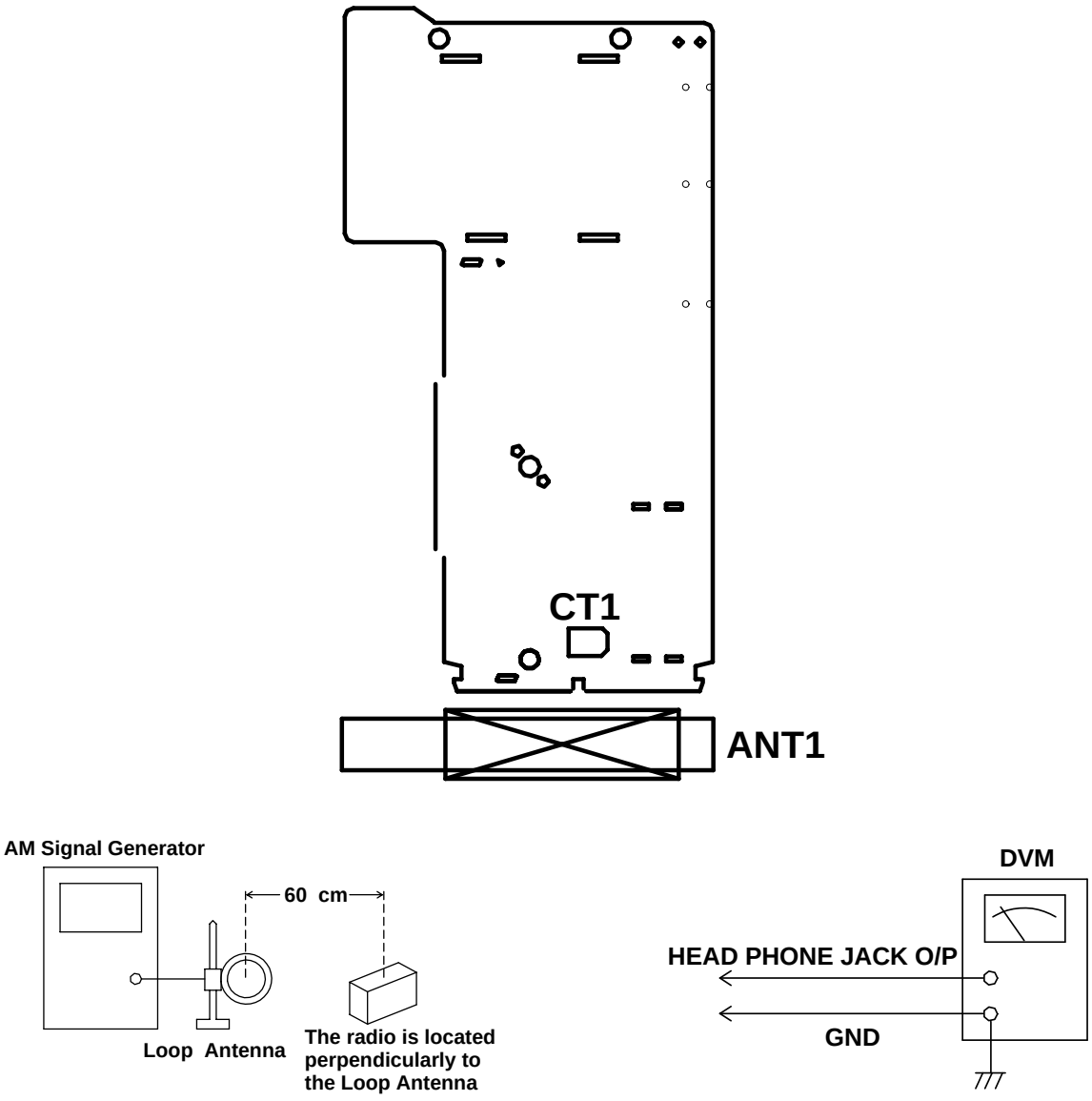
4. ALIGNMENT FOR AM SENSITIVITY

a. Required Instruments
AM Signal Generator
SSVM

b. Alignment Procedure

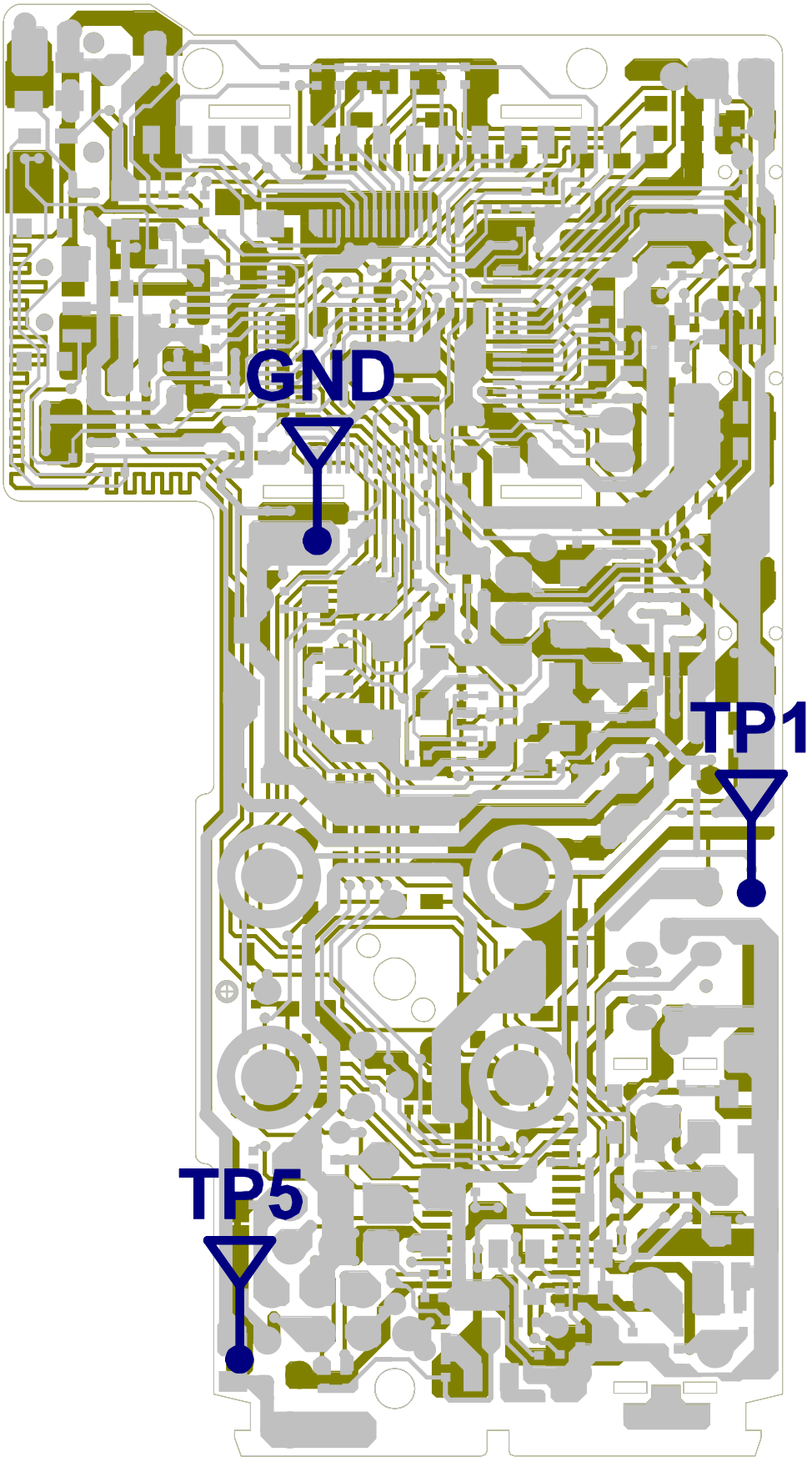
Mode	Adjustment	Procedure
AM	CT1 ANT1	(1) Turn on the radio. (2) Connect a SSVM to the speaker H.P JACK and GND terminals. (3) Connect an AM signal generator together with standard loop dummy antenna and feed 30% modulated signal to the AM ferrite bar antenna (ANT1). (4) Tune the generator frequency to 1404 KHz. (5) Tune the AM frequency to 1404 KHz and adjust CT1 to have a max reading on SSVM. (6) Return the generator frequency to 603 KHz. (7) Tune the AM frequency to 603 KHz and adjust ANT1 to have a max reading on SSVM. (8) Repeat (4) to (7) as necessary to minimize tracking error.

c. Instrument Connection

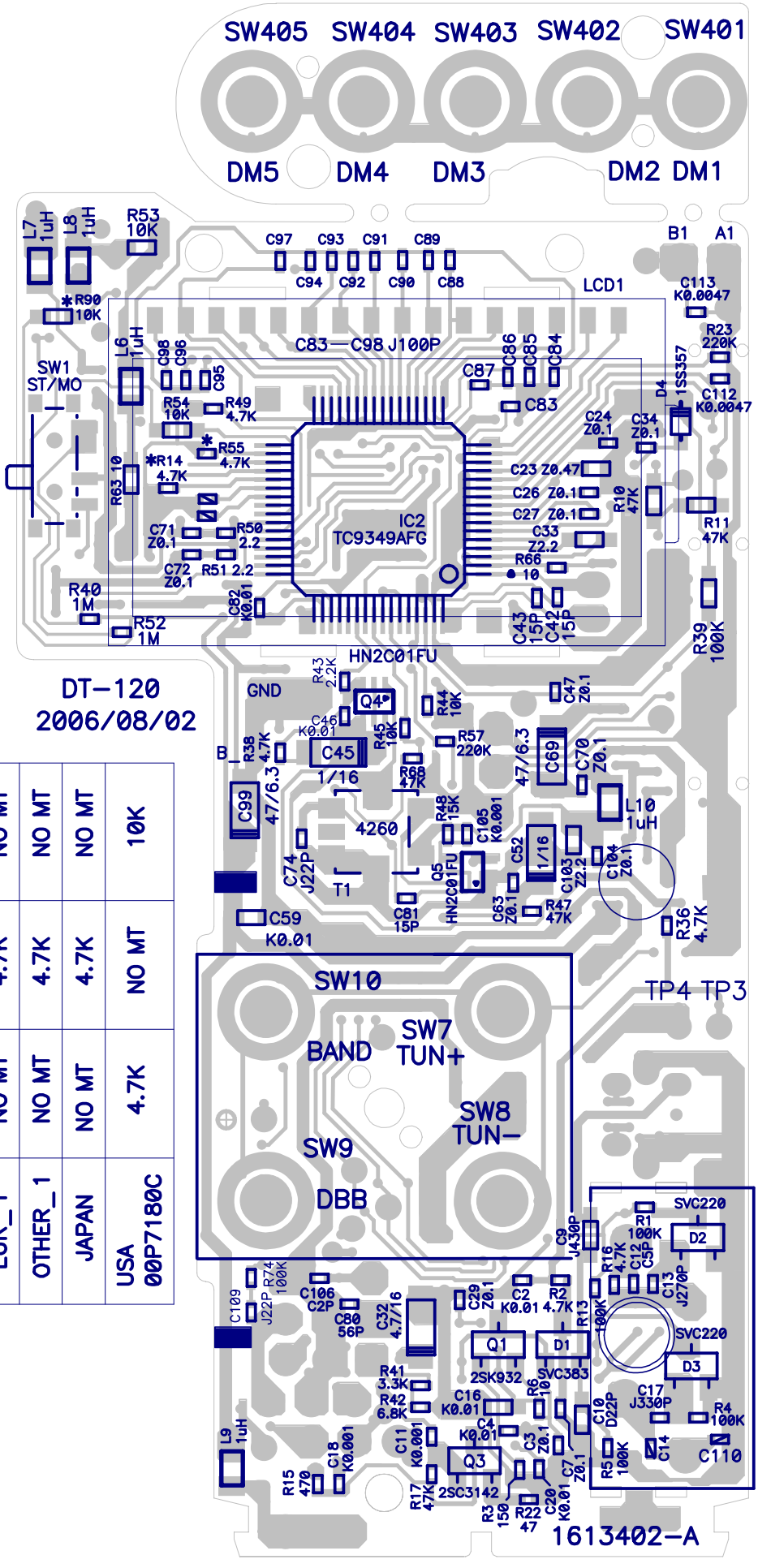


TEST POINTS DIAGRAM

Gray = Bottom layer
Yellowish brown = Top layer



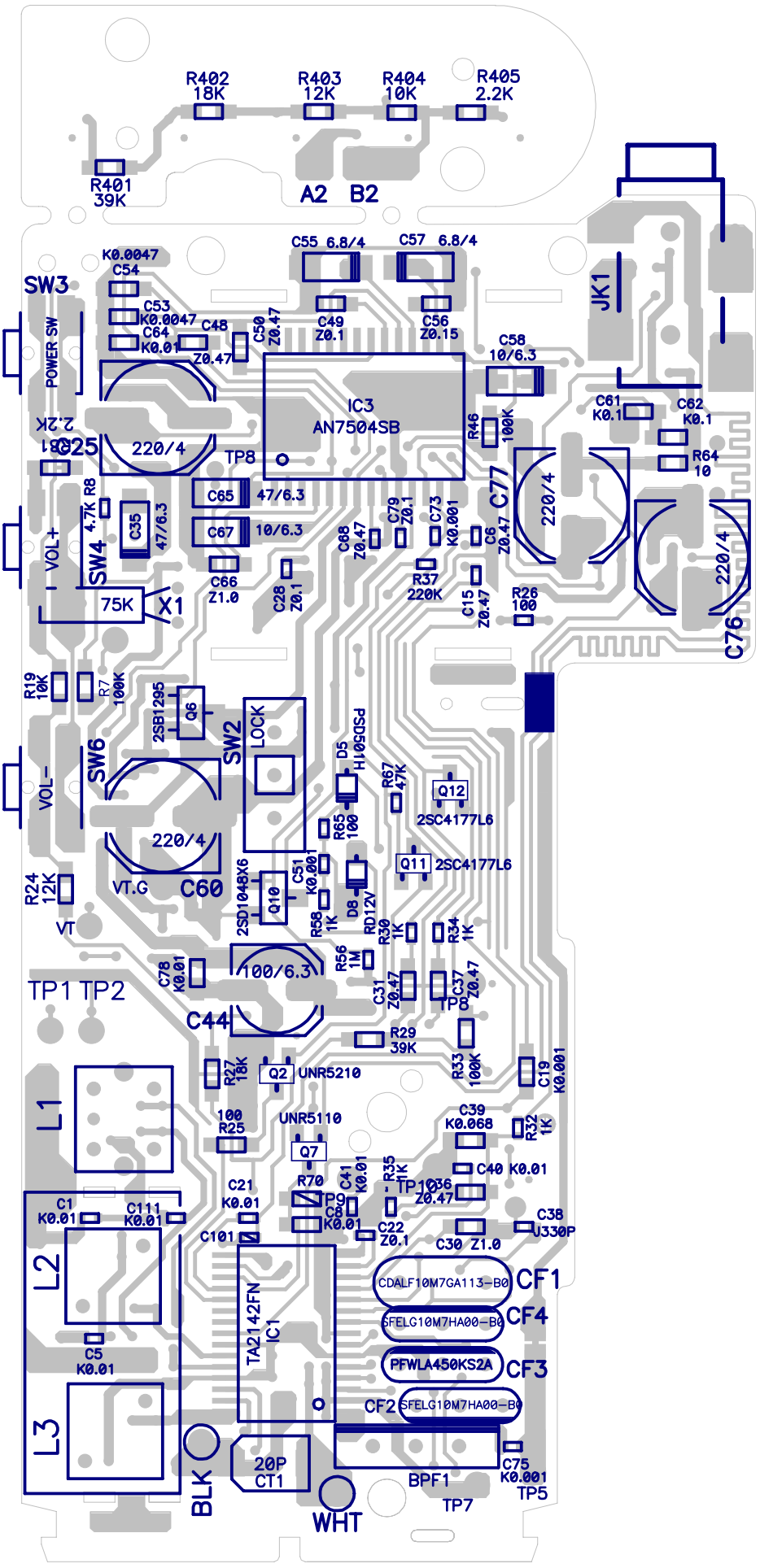
PCB TOP VIEW



*

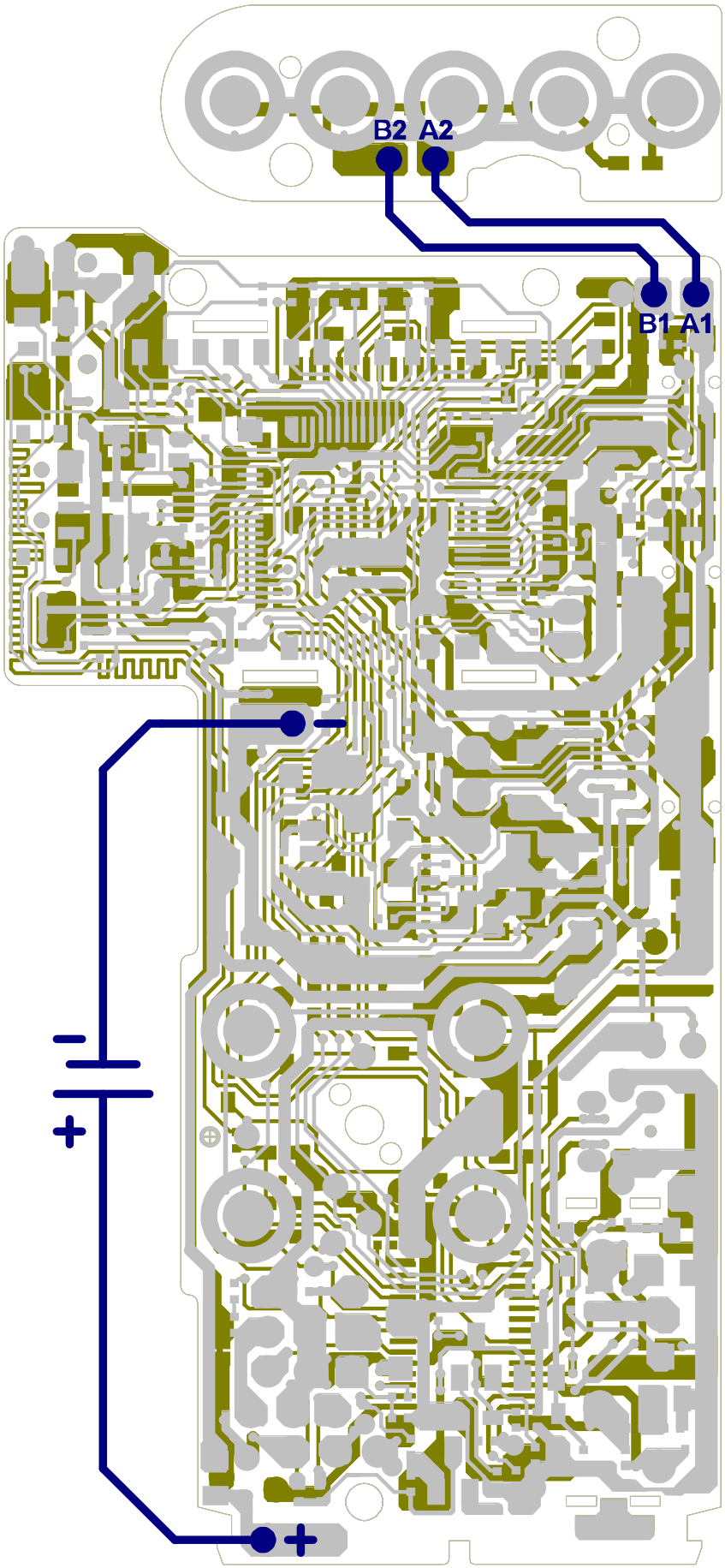
REF NO / MODEL	R14(P37) (9K/50K)	R55(P34) CLOCK ON	R90(P34) CLOCK OFF
USA_1	4.7K	4.7K	NO MT
USA_2	4.7K	4.7K	NO MT
EUR_1	NO MT	4.7K	NO MT
OTHER_1	NO MT	4.7K	NO MT
JAPAN	NO MT	4.7K	NO MT
USA 00P7180C	4.7K	NO MT	10K

PCB BOTTOM VIEW



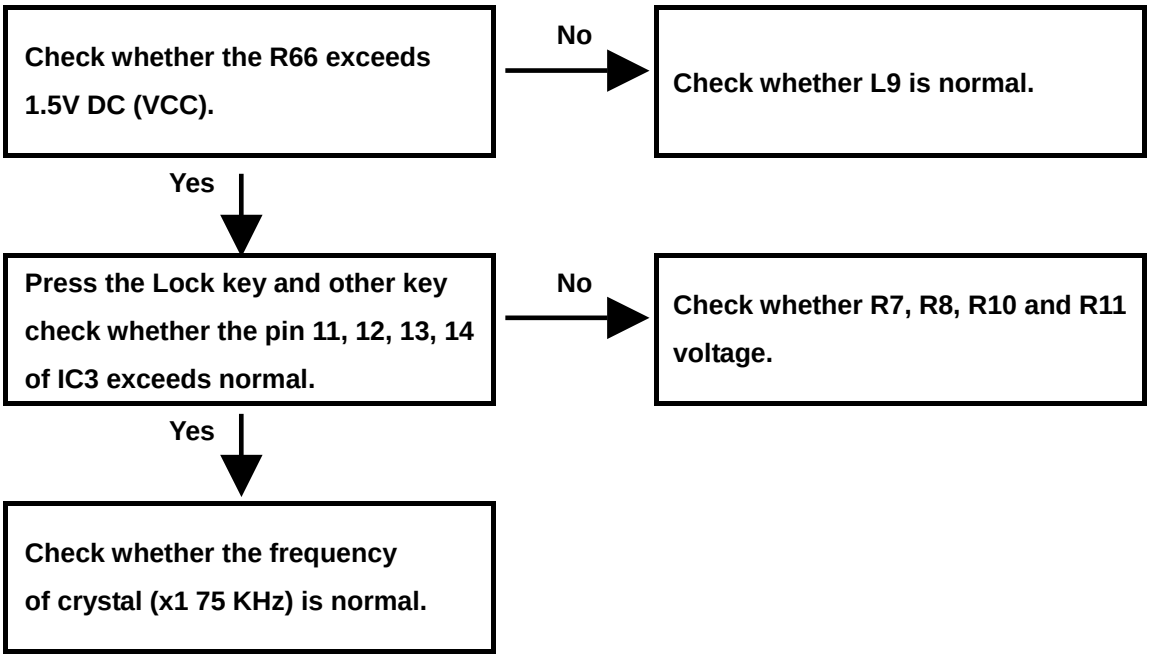
WIRING DIAGRAM

Gray =Top layer
Yellowish brown = Bottom layer

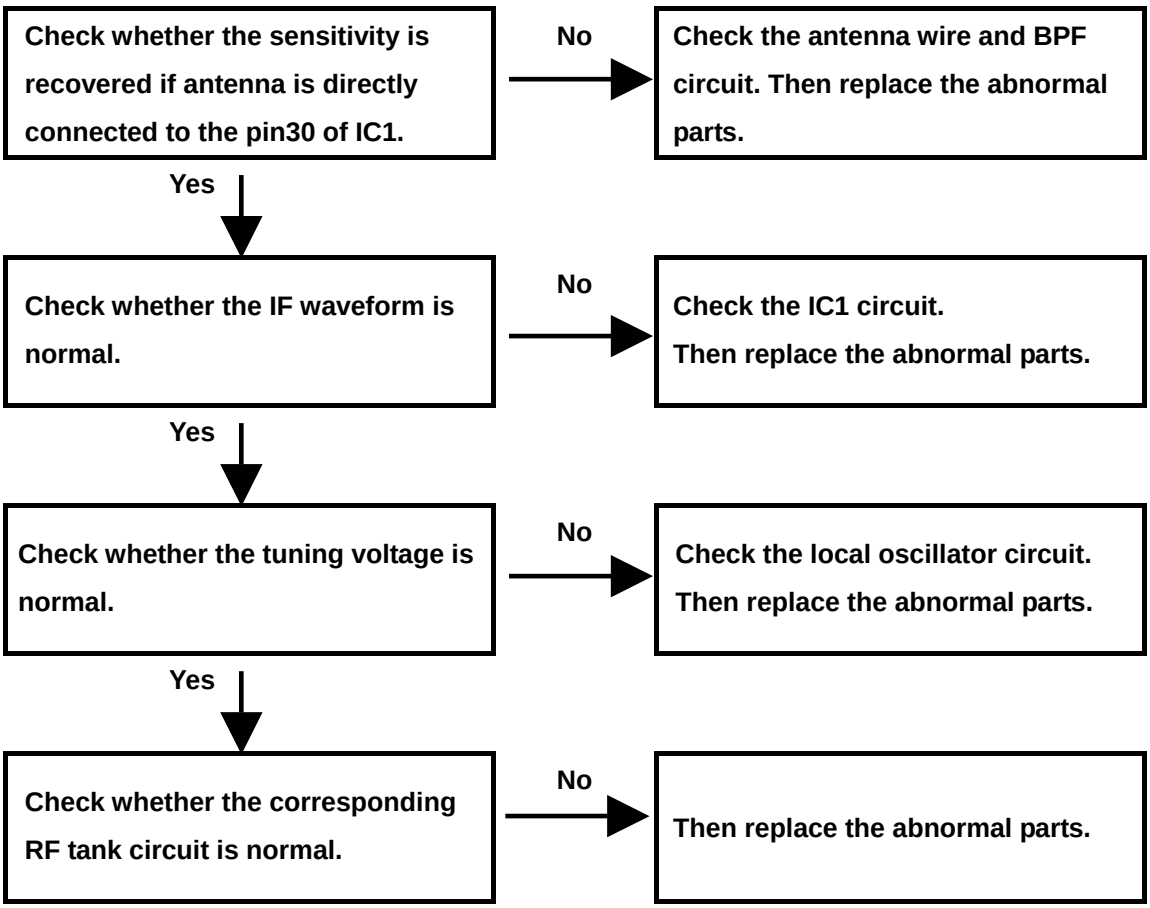


TROUBLESHOOTING FLOW CHART

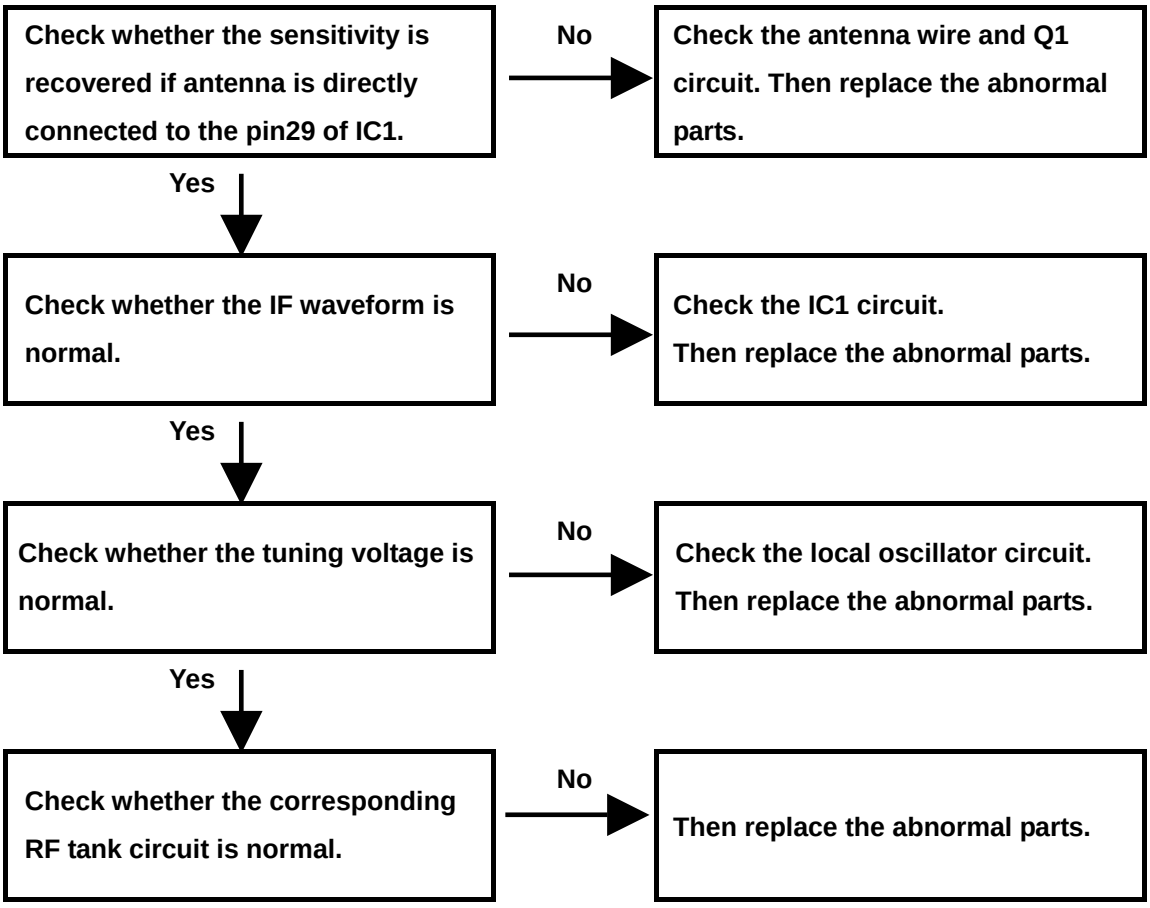
(1) Power can not be turned on


Check whether the R66 exceeds 1.5V DC (VCC).
No
Check whether L9 is normal.
Yes
Press the Lock key and other key check whether the pin 11, 12, 13, 14 of IC3 exceeds normal.
No
Check whether R7, R8, R10 and R11 voltage.
Yes
Check whether the frequency of crystal (x1 75 KHz) is normal.

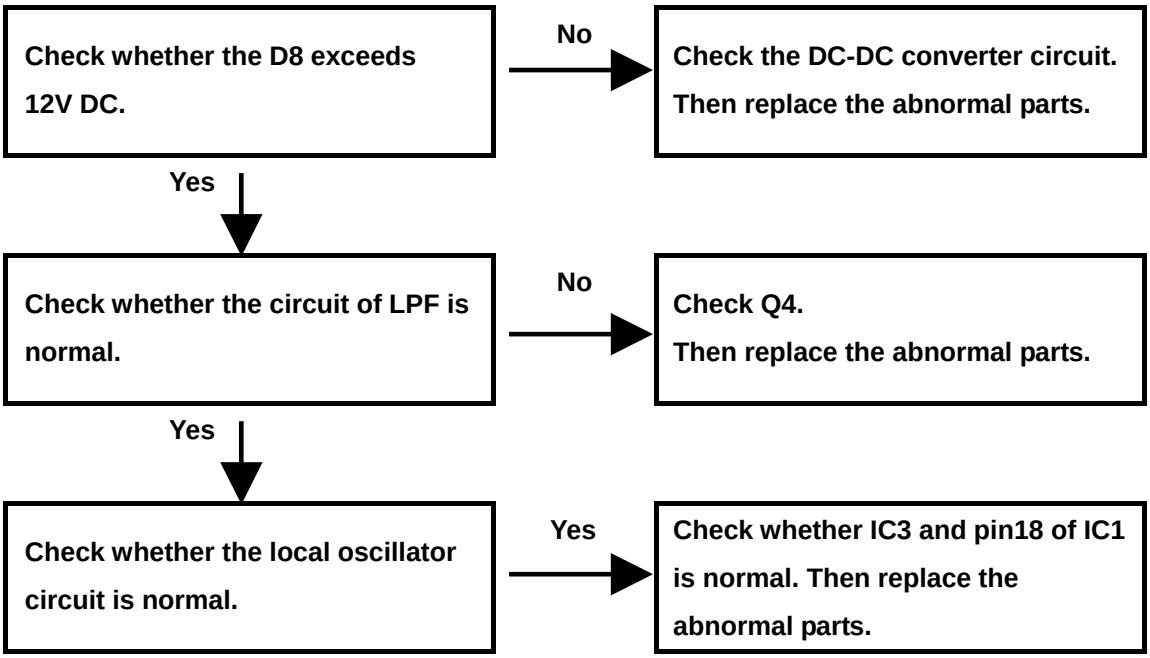
(2) Weak sensitivity on FM mode


Check whether the sensitivity is recovered if antenna is directly connected to the pin30 of IC1.
No
Check the antenna wire and BPF circuit. Then replace the abnormal parts.
Yes
Check whether the IF waveform is normal.
No
Check the IC1 circuit. Then replace the abnormal parts.
Yes
Check whether the tuning voltage is normal.
No
Check the local oscillator circuit. Then replace the abnormal parts.
Yes
Check whether the corresponding RF tank circuit is normal.
No
Then replace the abnormal parts.

(3) Weak sensitivity on AM mode


Check whether the sensitivity is recovered if antenna is directly connected to the pin29 of IC1.
No
Check the antenna wire and Q1 circuit. Then replace the abnormal parts.
Yes
Check whether the IF waveform is normal.
No
Check the IC1 circuit.
Then replace the abnormal parts.
Yes
Check whether the tuning voltage is normal.
No
Check the local oscillator circuit.
Then replace the abnormal parts.
Yes
Check whether the corresponding RF tank circuit is normal.
No
Then replace the abnormal parts.

(4) PLL does not work


Check whether the D8 exceeds 12V DC.
No
Check the DC-DC converter circuit.
Then replace the abnormal parts.
Yes
Check whether the circuit of LPF is normal.
No
Check Q4.
Then replace the abnormal parts.
Yes
Check whether the local oscillator circuit is normal.
Yes
Check whether IC3 and pin18 of IC1 is normal. Then replace the abnormal parts.

ELECTRICAL PARTS LIST

DT-120

PART NO	DESCRIPTION	Q'TY	REMARK
1000791-A	CH LSI TC9349AFG-310	1	IC 2,
1013140-A	CH IC AN7504SB	1	IC 3,
1013150-A	CH IC TA2142FNE	1	IC 1,
1021070-A	CH TR 2SB1295-6-TB	1	Q 6,
1022180-A	CH TR 2SC4177-T1-A L6	2	Q 11,12,
1022210-A	CH TR 2SC3142 J3	1	Q 3,
1023010-A	CH TR 2SD1048 X6	1	Q 10,
1026001-A	CH TR HN2C01FU-GRhFE=200	2	Q 4,5,
1026120-A	CH TR UNR5110	1	Q 7,
1026130-A	CH TR UNR5210	1	Q 2,
1030170-A	CH FET 2SK932-23-TB-E	1	Q 1,
1043140-A	CH VARICAP SVC383-S	1	D 1,
1043180-A	CH VARICAP SVC220	2	D 2,3,
104535D-A	CH ZENER DIODE 12V	1	D 8,
1046250-A	CH DIODE 1SS357	1	D 4,
1046251-A	CH DIODE PSD501H	1	D 5,
1111370-A	BAR ANT & COIL 1370	1	ANT1,
1124260-A	CH ADJ COIL 4260	1	T 1(DC_DC),
1124270-A	ADJ. COIL FT12NP-35-F2	1	L 2,
1124290-A	ADJ.COIL 4290	1	L 1,
1124310-A	ADJ COIL FT12NP-45-F2	1	L 3,
11313A0K-A	CH INDUCTOR 1uHK-A	5	L 6-10,
1210310-A	CH TC 20P RED 3mm	1	CT 1,
1600770-A	LCD SV-NS1655BPTZ DT-120	1	LCD1,
1613402-A	PCB A DT-120	1	
1631140-A	CH SLIDE SW.1P2C	1	SW 1,
1631350-A	SLIDE SW 1P2C	1	SW 2,
1631402-A	CH TACT SW 1P1C	3	SW 3,4,6,
1631790-A	METAL DOME SW 4P	1	SW 7.8.9.10,
1631800-A	METAL DOME SW 5P	1	SW 401.402.403.404.405,
1640370-A	CH JACK EP HSJ1636011020	1	JK 1,
1650530-A	X'TAL 75KHz+10/-20PPM2x6	1	X 1,
1660341-A	FILTER PFWLF450KS2A-A0	1	CF 3,
1664222-A	FIL GFMB7-C2-LF 88-108M	1	BPF1,
1664470-A	FILTER SFELG10M7HA00-B0	2	CF 2,4,
1664490-A	DISCRI CDALF10M7GA113-B0	1	CF 1,
4A10791-A	CH EL 107 6.3V 5φx5.3	1	C 44,
4A22703-A	CH EL 227 4V 6.3φx5.3	4	C 25,60,76,77,
4B10532-A	CH TA 105M 16V 3.2x1.6	2	C 45,52,
4B47533-A	CH TA 475M 16V 3.2x1.6	1	C 32,
4B68504-A	CH TA 685M 4V 3.2x1.6	2	C 55,57,
4B10615-A	CH TA 106M 6.3V 3.2x1.6	2	C 58,67,
4B47612-A	CH TA 476M 6.3V 3.2x1.6	4	C 35,65,69,99,
5302001-A	CH CC 020D 50V NPO-D	1	C 106,
5305001-A	CH CC 050D 50V NPO-D	1	C 12,
5310101-A	CH CC 101J 50V NPO-D	16	C 83-98,
5310261-A	CH CC 102K 50V X7R-D	6	C 11,18,51,73,75,105,
5310361-A	CH CC 103K 50V X7R-D	8	C 1,2,4,5,20,21,46,82,
5310472-A	CH CC 104Z 16V Y5V-D	16	C 3,7,22,24,26-29,34, 47,63,70-72,79,104,
5315001-A	CH CC 150J 50V NPO-D	3	C 42,43,81,
5322001-A	CH CC 220J 50V NPO-D	2	C 74,109,
5327101-A	CH CC 271J 50V NPO-D	1	C 13,
5333101-A	CH CC 331J 50V NPO-D	2	C 17,38,
5347261-A	CH CC 472K 50V X7R-D	2	C 112,113,
5347473-A	CH CC 474Z 10V Y5V-D	3	C 6,15,68,
5356261-A	CH CC 562K 50V X7R-D	2	C 40,41,
5410261-A	CH CC 102K 50V X7R-C	1	C 19,
5410361-A	CH CC 103K 50V X7R-C	7	C 8,16,59,61,62,64,78,
5410446-A	CH CC 104Z 25V F-C	1	C 49,
5410557-A	CH CC 105Z 10V F-C	2	C 30,66,
5415473-A	CH CC 154Z 10V Y5V-C	1	C 56,
5422096MA	CH CC 220J 50V UJ-C MR	1	C 10,
5422557-A	CH CC 225Z 10V Y5V-C	2	C 33,103,
5443101-A	CH CC 431J 50V NPO-C	1	C 9,

ELECTRICAL PARTS LIST

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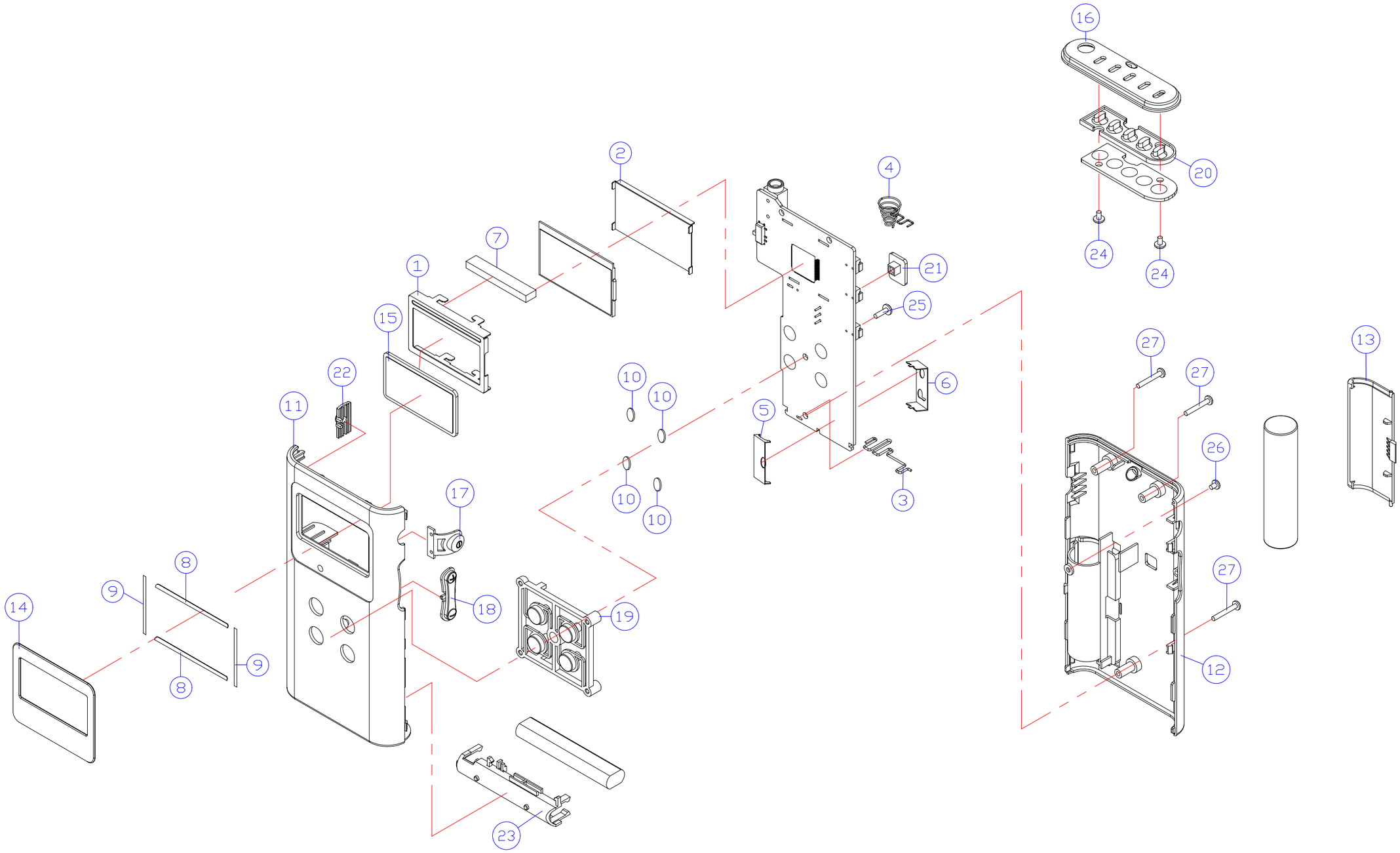
PART NO	DESCRIPTION	Q'TY	REMARK
5447261-A	CH CC 472K 50V X7R-C	2	C 53,54,
5447472-A	CH CC 474Z 16V Y5V-C	6	C 23,31,36,37,48,50,
5456001-A	CH CC 560J 50V NPO-C	1	C 80,
5468351-A	CH CC 683K 16V R-C	1	C 39,
6130112-A	CH RD 1/16W 10J-C	2	R 63,64,
6130124-A	CH RD 1/16W 100J-C	1	R 25,
6130140-A	CH RD 1/16W 2.2KJ-C	2	R 81,405,
6130148-A	CH RD 1/16W 10KJ-C	4	R 19,53,54,404,
6130149-A	CH RD 1/16W 12KJ-C	2	R 24,403,
6130151-A	CH RD 1/16W 18KJ-C	2	R 27,402,
6130155-A	CH RD 1/16W 39KJ-C	2	R 29,401,
6130156-A	CH RD 1/16W 47KJ-C	2	R 10,11,
6130160-A	CH RD 1/16W 100KJ-C	4	R 7,33,39,46,
6140104-A	CH RD 1/32W 2.2J-D	2	R 50,51,
6140112-A	CH RD 1/32W 10J-D	2	R 6,66,
6140120-A	CH RD 1/32W 47J-D	1	R 22,
6140124-A	CH RD 1/32W 100J-D	2	R 26,65,
6140126-A	CH RD 1/32W 150J-D	1	R 3,
6140132-A	CH RD 1/32W 470J-D	1	R 15,
6140136-A	CH RD 1/32W 1KJ-D	5	R 30,32,34,35,58,
6140140-A	CH RD 1/32W 2.2KJ-D	1	R 43,
6140142-A	CH RD 1/32W 3.3KJ-D	1	R 41,
6140144-A	CH RD 1/32W 4.7KJ-D	7	R 2,8,16,36,38,49,55,
6140146-A	CH RD 1/32W 6.8KJ-D	1	R 42,
6140148-A	CH RD 1/32W 10KJ-D	2	R 44,45,
6140150-A	CH RD 1/32W 15KJ-D	1	R 48,
6140156-A	CH RD 1/32W 47KJ-D	4	R 17,47,67,68,
6140160-A	CH RD 1/32W 100KJ-D	5	R 1,4,5,13,74,
6140164-A	CH RD 1/32W 220KJ-D	3	R 23,37,57,
6140172-A	CH RD 1/32W 1MJ-D	3	R 40,52,56,
8591822-A	W/PVC/2 50(3+6)	1	A1.B1-A2.B2

MECHANICAL PARTS LIST

DT-120

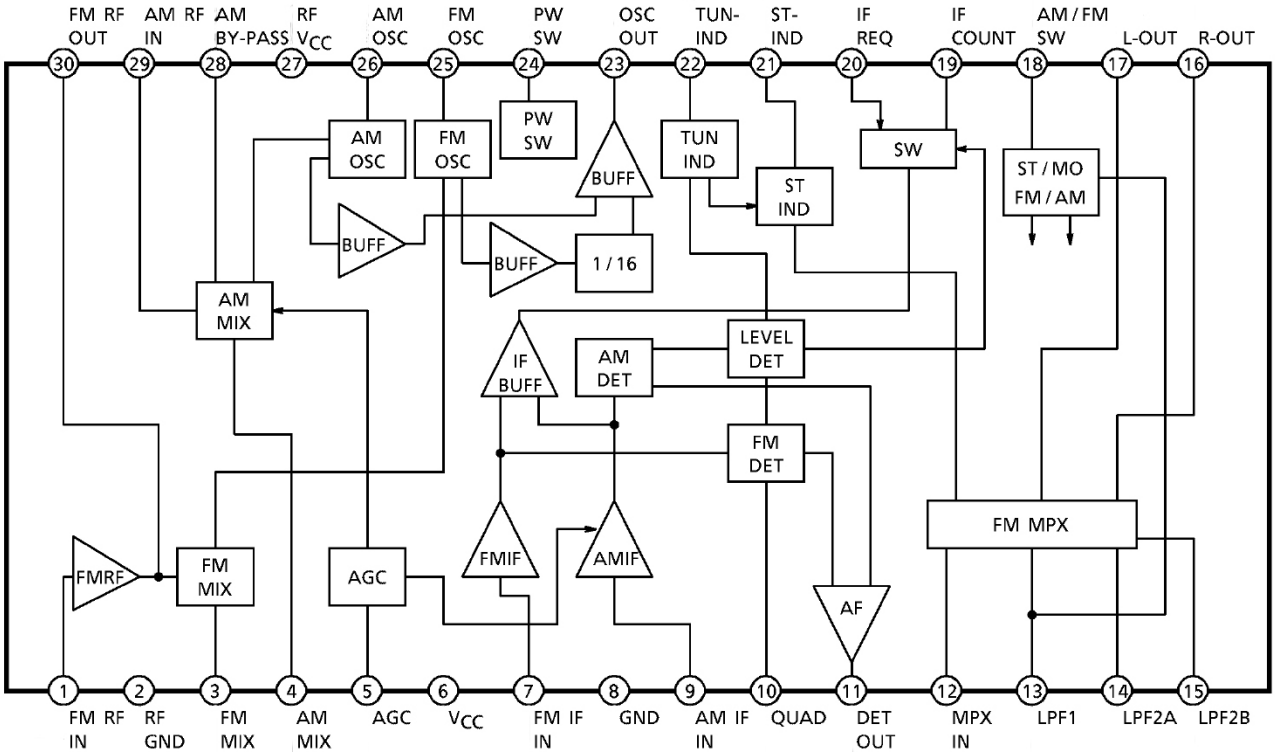
Ref no	PART NO.	DESCRIPTION	Q'TY	DWG NO.	REMARK
1	21P7000-A	LCD HOLDER	1	A3-DT120-12A	
2	21P7010-A	LCD HOLDER SHELD	1	A4-DT120-13A	
3	21P7020-A	BATTERY CON+	1	A4-DT120-14A	
4	21P7030-A	BATTERY CON-	1	A4-DT120-15A	
5	21P7060-A	SHIELD-A	1	A4-DT120-23A	
6	21P7070-A	SHIELD-B	1	A4-DT120-24A	
7	24P7000-A	CONDUCT RUBBER	1	A4-DT120-22A	
8	24P7010-A	DOUBLE TAPE-L	2	A4-DT120-20A	
9	24P7020-A	DOUBLE TAPE-S	2	A4-DT120-21A	
10	24P7030-A	SILICON SPACE	6	A4-DT120-29A	
11	301P701A-A	FRONT CABINET	1	A1-DT120-01A	
12	303P701A-A	BACK COVER	1	A1-DT120-02A	
13	304P701-A	BATTERY COVER	1	A3-DT120-17A	
14	305P701-A	FRONT PANEL	1	A4-DT120-11A	
15	306P701-A	LCD WINDOW	1	A4-DT120-09A	
16	307P701-A	TOP COVER	1	A3-DT120-03A	
17	310P701A-A	POWER KNOB	1	A3-DT120-06A	
18	311P701A-A	VOLUME KNOB	1	A3-DT120-05A	
19	312P701-A	TUNING KNOB	1	A3-DT120-04A	
20	313P701-A	RUBBER KEY	1	A3-DT120-10A	
21	317P701-A	LOCK KNOB	1	A3-DT120-08A	
22	321P701-A	SLIDE KNOB	1	A3-DT120-07A	
23	361P701-A	BAR ANT HOLDER	1	A3-DT120-18A	
24	9155022-A	PTPW 1.4x2(NI)	2		
25	9155052-A	PTPW 1.4x5(NI)	1		
26	9165022-A	PTB 1.4x2(NI)	1		
27	9165102-A	PTB 1.4x10(NI)	3		

EXPLODED VIEWS

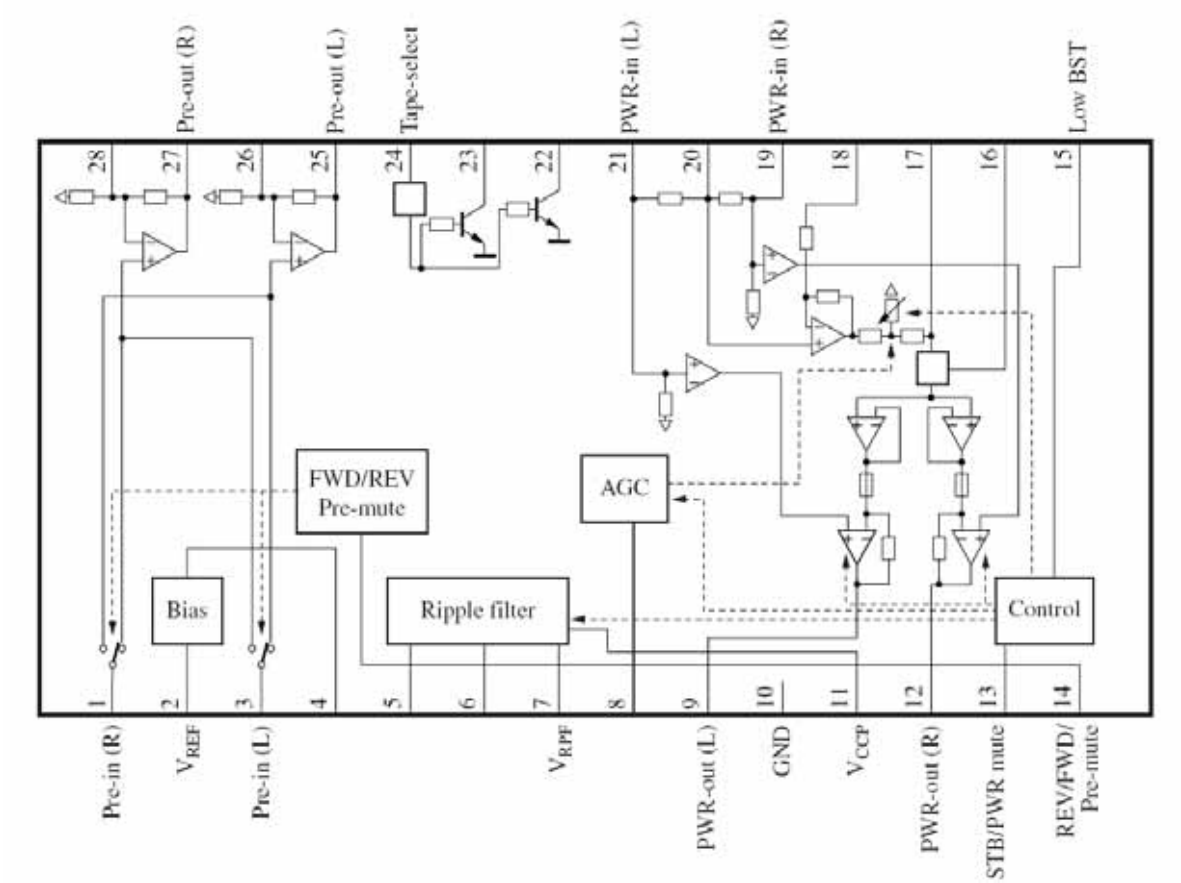


IC CIRCUIT BLOCK DIAGRAM

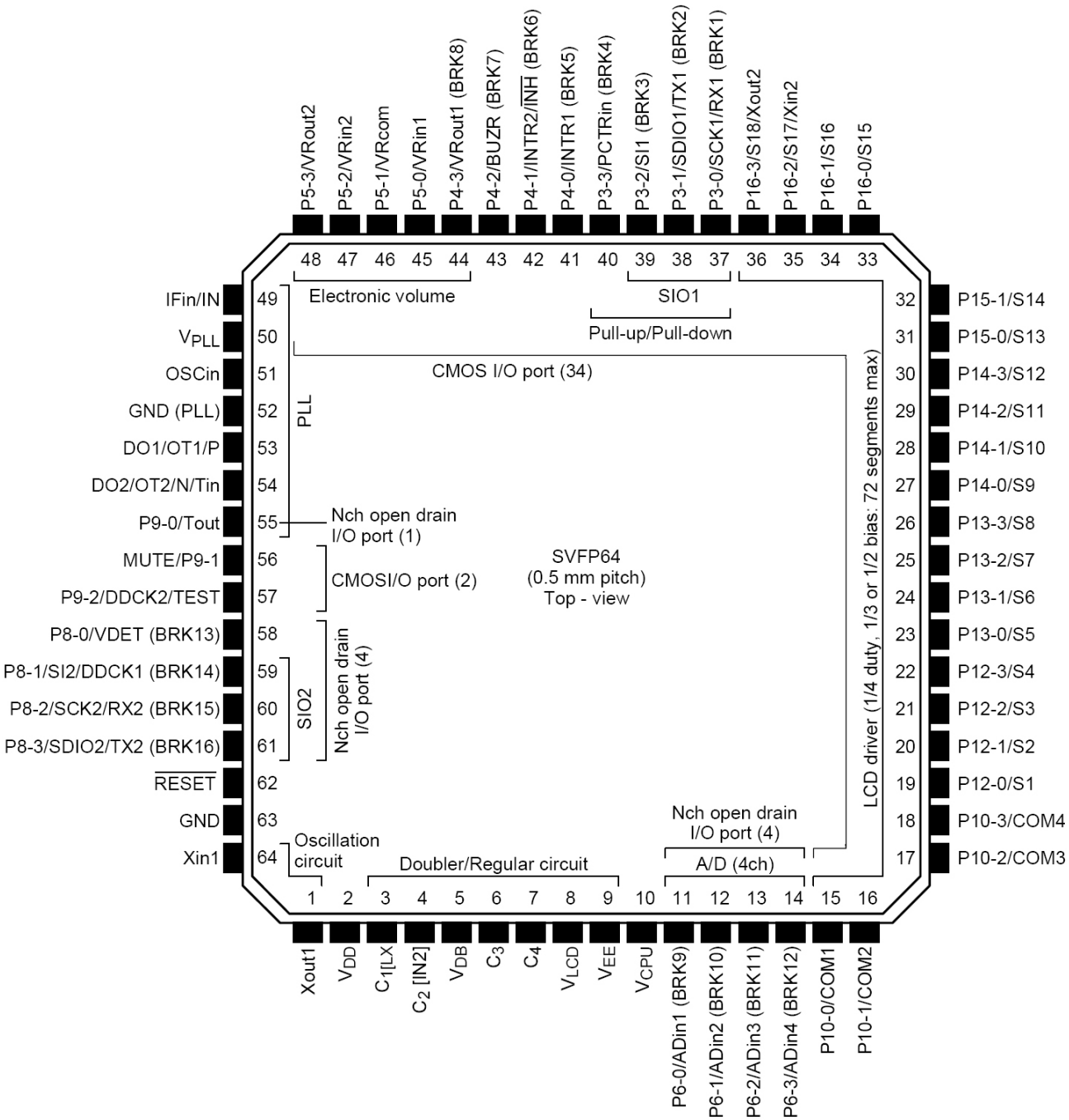
1. IC1 – TA2142FNE



2. IC3 – AN7504SB



3. IC2 – TC9349AFG



IC AND TRANSISTOR VOLTAGE CHART

IC1 – TA2142FNE

PIN	FM	AM	PIN	FM	AM	PIN	FM	AM	PIN	FM	AM
1	0.09	0	**9**	1.48	1.48	**17**	0.56	0.55	**25**	1.48	1.48
2	0	0	**10**	1.43	1.48	**18**	0	1.48	**26**	1.48	1.48
3	0.77	1.0	**11**	0.93	0.46	**19**	1.48	1.48	**27**	1.48	1.48
4	0	0.47	**12**	0.09	0.09	**20**	0.24	0.24	**28**	0.87	0.87
5	0.88	0.6	**13**	0.02	0.02	**21**	0.91	0.91	**29**	0	0.87
6	1.48	1.48	**14**	0.10	0.09	**22**	0	0	**30**	1.48	1.48
7	1.48	1.48	**15**	0.07	0.08	**23**	1.3	1.3			
8	0	0	**16**	0.53	0.52	**24**	1.48	1.48			

IC2 – TC9349AFG

PIN	FM	AM	PIN	FM	AM	PIN	FM	AM	PIN	FM	AM
1	0.60	0.60	**17**	1.5	1.5	**33**	0	0	**49**	0.46	0.46
2	1.55	1.55	**18**	1.5	1.5	**34**	0	0	**50**	1.5	1.5
3	0.77	0.77	**19**	1.5	1.5	**35**	1.55	1.55	**51**	0.46	0.46
4	2.31	2.31	**20**	1.5	1.5	**36**	1.55	1.55	**52**	0	0
5	3.07	3.07	**21**	1.5	1.5	**37**	0	0	**53**	0.08	0.08
6	0.75	0.75	**22**	1.5	1.5	**38**	0	0	**54**	1.01	1.01
7	2.24	2.24	**23**	1.5	1.5	**39**	0	0	**55**	0	0
8	2.99	2.99	**24**	1.5	1.5	**40**	0	0	**56**	0	0
9	1.5	1.5	**25**	1.5	1.5	**41**	1.41	1.41	**57**	0	0
10	2.92	2.92	**26**	1.5	1.5	**42**	1.41	1.41	**58**	1.55	1.55
11	1.54	1.54	**27**	1.5	1.5	**43**	0	0	**59**	1.47	1.47
12	1.54	1.54	**28**	1.5	1.5	**44**	0.74	0.74	**60**	0	0
13	0	0	**29**	1.5	1.5	**45**	0.74	0.74	**61**	0	0
14	0	0	**30**	1.5	1.5	**46**	0.74	0.74	**62**	2.89	2.89
15	1.5	1.5	**31**	0.02	0.02	**47**	0.74	0.74	**63**	0	0
16	1.49	1.49	**32**	0.02	0.02	**48**	0.74	0.74	**64**	0.42	0.42

IC3 – AN7504SB

PIN	FM	AM	PIN	FM	AM	PIN	FM	AM	PIN	FM	AM
1	0	0	**8**	0	0	**15**	0.49	0.48	**22**	0.01	0
2	0.74	0.74	**9**	0.54	0.54	**16**	0.74	0.74	**23**	0	0
3	0	0	**10**	0	0	**17**	0.73	0.73	**24**	0.69	0.69
4	0.74	0.74	**11**	1.56	1.56	**18**	0.74	0.74	**25**	0.75	0.75
5	1.29	1.3	**12**	0.55	0.54	**19**	0.74	0.74	**26**	0.76	0.76
6	0.89	0.91	**13**	1.51	1.51	**20**	0.74	0.74	**27**	0.75	0.75
7	1.48	1.48	**14**	1.48	1.49	**21**	0.01	0.74	**28**	0.77	0.77

Transistor

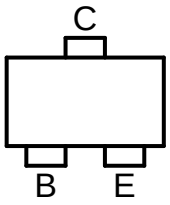
	PIN	FM	AM
Q1	**B**	0.33	0.34
	E	1.46	1.46
	C	0	0
Q2	**B**	0	0
	E	0	0
	C	0.25	0.72
Q3	**B**	0.76	0.76
	E	0.03	0.03
	C	1.13	1.12
Q7	**B**	1.56	0
	E	1.49	1.49
	C	0	1.48

	PIN	FM	AM
Q10	**B**	0.27	0.26
	E	0	0
	C	1.51	1.39
Q11	**B**	0	0.03
	E	0	0
	C	0.02	0.01
Q12	**B**	0	0.04
	E	0	0
	C	0.02	0.01

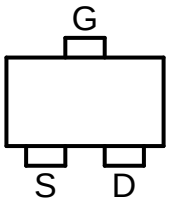
	PIN	FM	AM
Q4	**1**	0.01	0
	2	0.6	0.43
	3	1.05	1.01
	4	3.78	3.91
	5	0.59	0.58
	6	3.78	3.91
Q5	**1**	0	0
	2	0	0
	3	0.53	0.52
	4	0.58	0.57
	5	0.58	0.57
	6	1.49	1.48

SEMUCONDUCTOR LEAD IDENTIFICATIONS

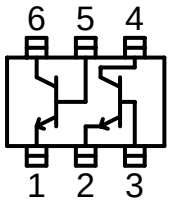
Transistors



2SB1295
2SC4177
2SC3142
2SD1048

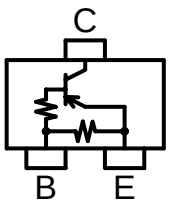


2SK932



HN2C01FU

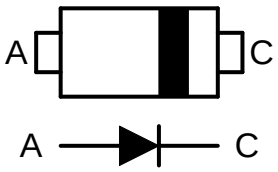
1. EMITTER 1
2. EMITTER 2
3. BASE 2
4. COLLECTOR 2
5. BASE 1
6. COLLECTOR 1



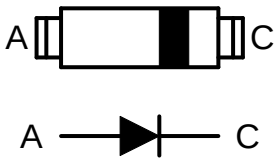
UNR5110
UNR5113
UNR5210

(E:Emitter C:Collector B:Base S:Source G:Gate D:Drain)

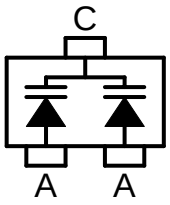
Diodes



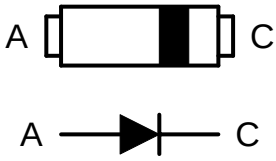
PSD501H



1SS357



SVC383
SVC220



ZENER RD12

(A:Anode C:Cathode)

SCHEMATIC DIAGRAM